

(Sheet 1 of 24)

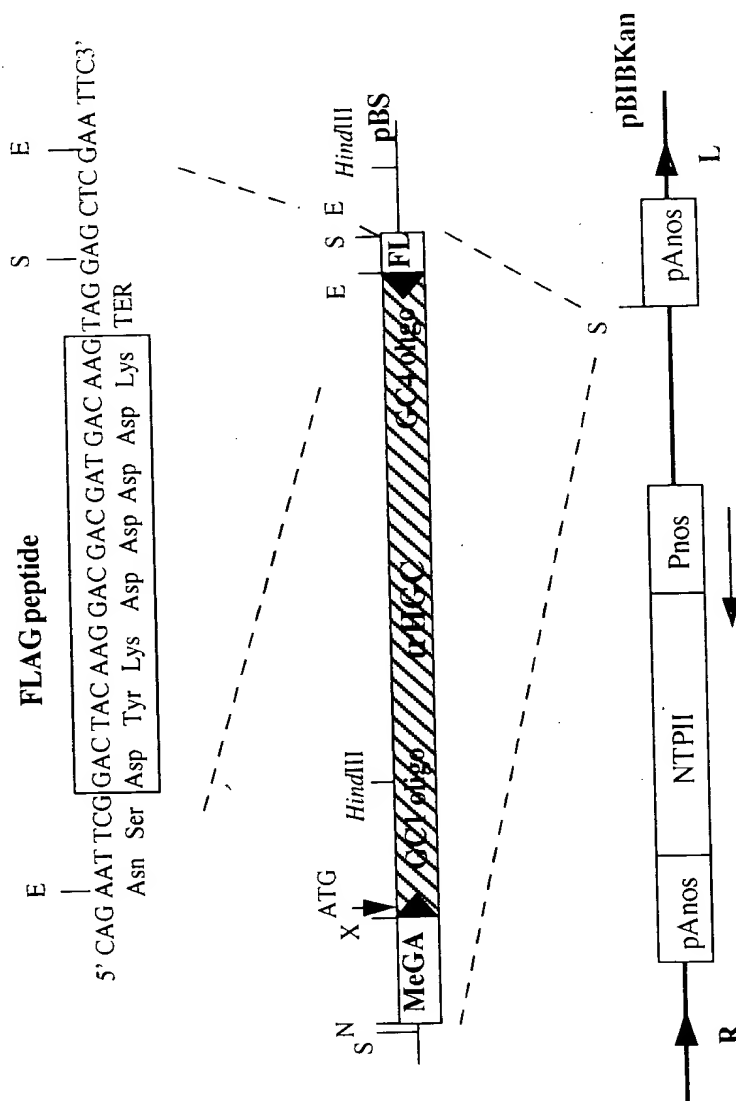


FIG. 1

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FIG. 2

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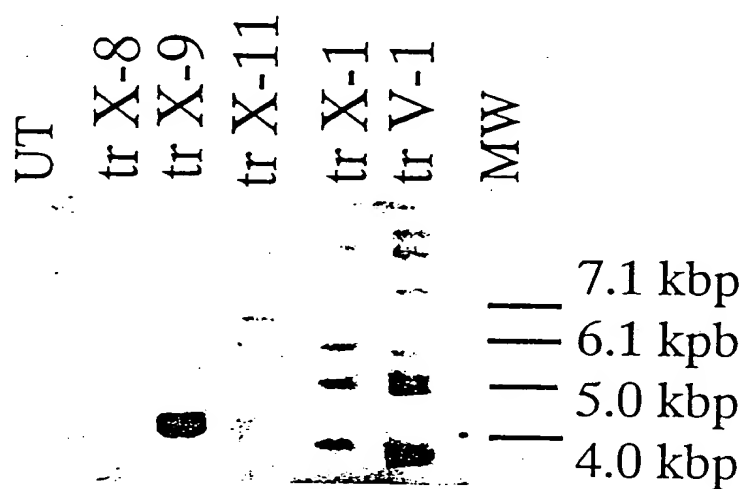


FIG. 3

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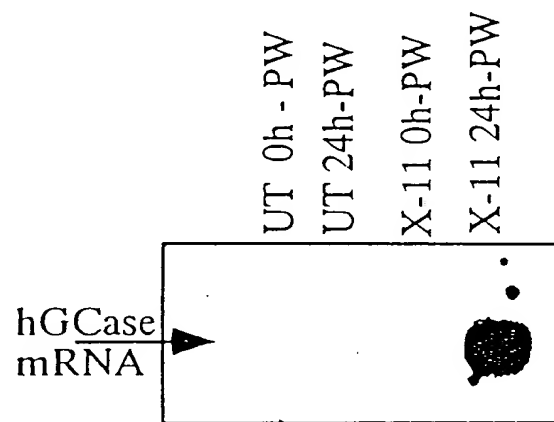


FIG. 4

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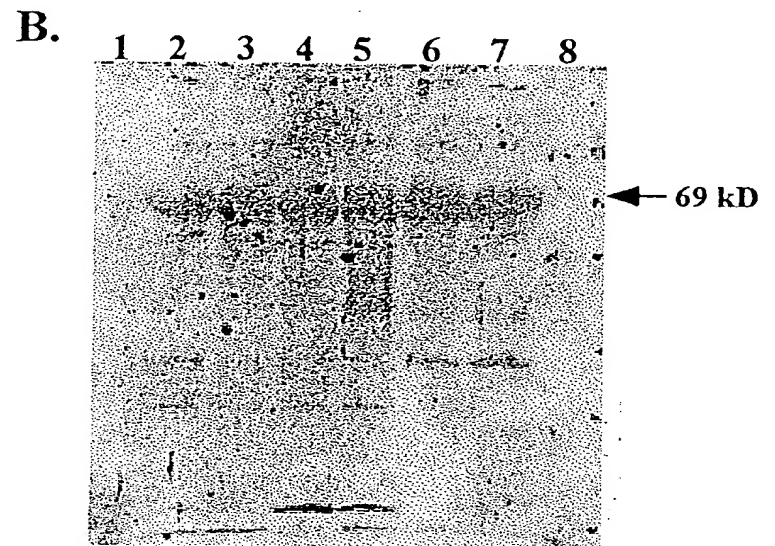
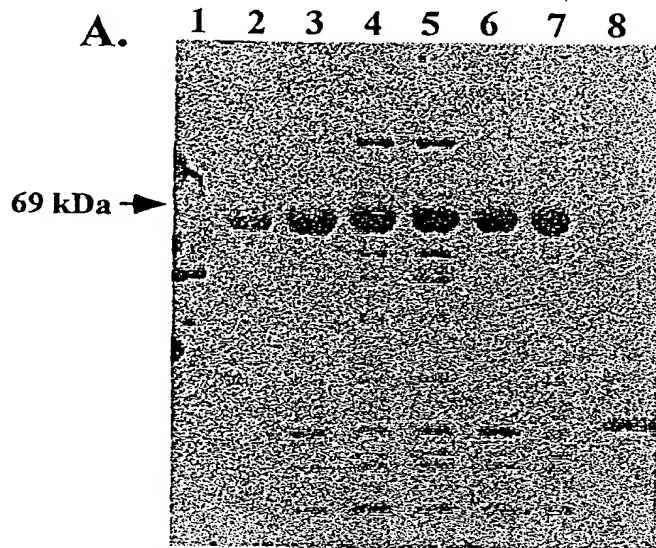


FIG. 5

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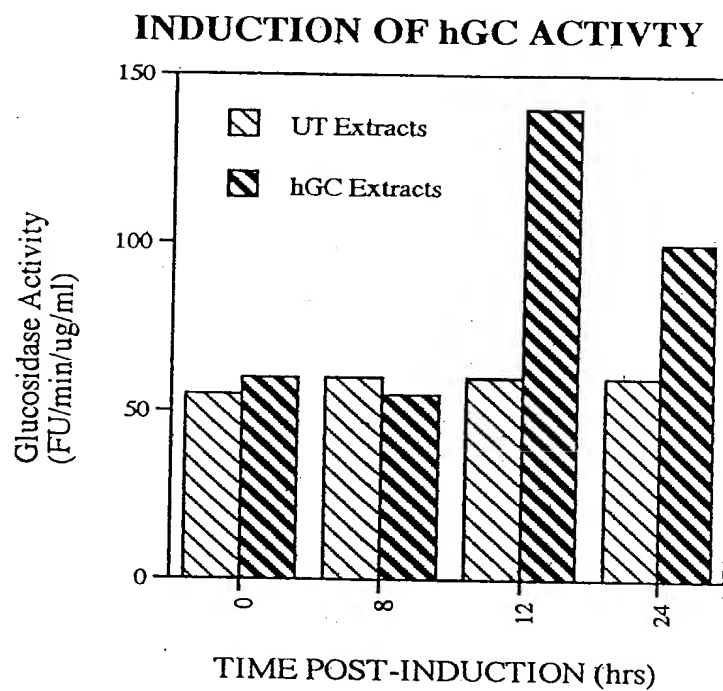


FIG. 6

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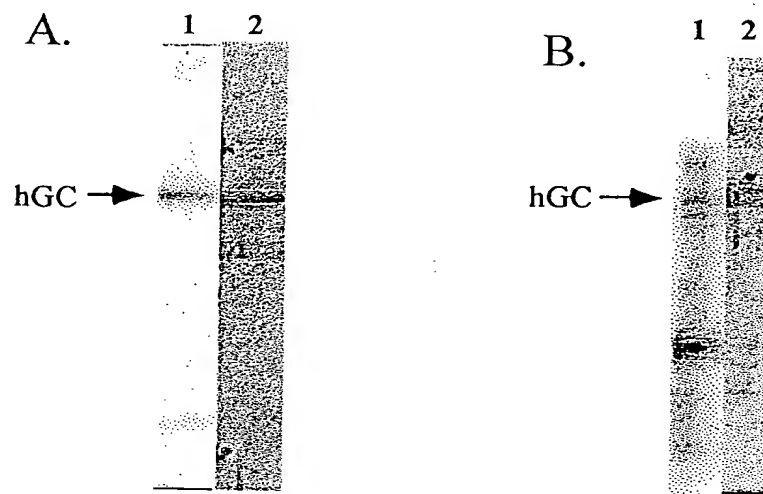


FIG. 7

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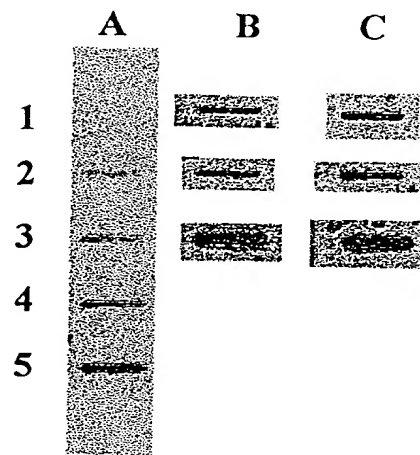


FIG. 8

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NUCLEOTIDE SEQUENCE OF hgc:FLAG

123 ATGGAGTT TTCAAGTCCT TCCAGAGAGG

151 AATGTCCCAA GCCTTTGAGT AGGGTAAGCA TCATGGCTGG CAGCCTCACA

201 GGTTCGCTTC TACTTCAGGC AGTGTCTGG GCATCAGGTG CCCGCCCTG

251 CATCCCTAAA AGCTTCGGCT ACAGCTCGGT GGTGTGTGTC TGCAATGCCA

301 CATACTGTGA CTCCTTTGAC CCCCCGACCT TTCCTGECCT TGGTACCTTC

351 AGCCGCTATG AGAGTACACG CAGTGGGCGA CGGATGGGGC TGAGTATGGG

401 GCCCATCCAG GCTAATCACA CGGGCACAGG CCTGCTACTG ACCCTGCAGC

451 CAGAACAGAA GTTCCAGAAA GTGAAGGGAT TTGGAGGGGC CATGACAGAT

501 GCTGCTGCTC TCAACATCCT TGCCCTGTCA CCCCCTGCCC AAAATTGTCT

551 ACTTAAATCG TACTTCTCTG AAGAAGGAAT CGGATATAAC ATCATCCGGG

601 TACCCATGGC CAGCTGTGAC TTCTCCATCC GCACCTACAC CTATGCAGAC

651 ACCCCTGATG ATTTCCAGTT GCACAACTTC AGCCTCCCAG AGGAAGATAC

701 CAAGCTCAAG ATACCCCTGA TTCACCGAGC CCTGCAGTTG GCCCAGCGTC

751 CCGTTTCACT CCTTGCCAGC CCCTGGACAT CACCCACTTG GCTCAAGACC

801 AATGGAGCGG TGAATGGGAA GGGGTCACCT AAGGGACAGC CCGGAGACAT

851 CTACCACCAG ACCTGGGCCA GATACTTTGT GAAGTTCCTG GATGCCTATG

901 CTGAGCACAA GTTACAGTTC TGGGCAGTGA CAGCTGAAAA TGAGCCTTCT

951 GCTGGGCTGT TGAGTGGATA CCCCTTCCAG TGCCTGGGCT TCACCCCTGA

1001 ACATCAGCGA GACTTCATTG CCCGTGACCT AGGTCCTACC CTCGCCAACA

1051 GTA~~CT~~CACCA CAATGTCCGC CTACTCATGC TGGATGACCA ACGCTTGCTG

1101 CTGCCCCACT GGGCAAAGGT GGTACTGACA GACCCAGAAG CAGCTAAATA

1151 TGTTCATGGC ATTGCTGTAC ATTGGTACCT GGACTTTCG GCTCCAGCCA

1201 AAGCCACCCT AGGGGAGACA CACCGCCTGT TCCCCAACAC CATGCTCTTT

1251 GCCTCAGAGG CCTGTGTGGG CTCCAAGTTC TGGGAGCAGA GTGTGCGGCT

1301 AGGCTCCTGG GATCGAGGGA TGCAGTACAG CCACAGCATC ATCACGAACC

1351 TCCTGTACCA TGTGGTCGGC TGGACCGACT GGAACCTTGC CCTGAACCCC

1401 GAAGGAGGAC CCAATTGGGT GCGTAACTTT GTCGACAGTC CCATCATTGT

1451 AGAC~~GT~~CACC AGGGACACGT TTTACAAACA GCCCATGTTC TACCACCTTG

1501 GCCACTTCAG CAAGTTCATT CCTGAGGGCT CCCAGAGAGT GGGGCTGGTT

1551 GCCAGTCAGA AGAACGACCT GGACGCAGTG GCACTGATGC ATCCCGATGG

1601 CTCTGCTGTT GTGGTCGTGC TAAACCGCTC CTCTAAGGAT GTGCCTCTTA

(Sheet 10 of 24)

1651 CCATCAAGGA TCCTGCTGTG GGCTTCCTGG AGACAATCTC ACCTGGCTAC
1701 TCCATTCACA CCTACCTGTG GCGTCGCCAG aattcggact acaaggacga
1751 cgatgacaag tTGA

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```

1
MEFSSPSREE CPKPLSRVS IMAGSLTGLL LLQAVSWASG ARPCIPKSFG 50
51
YSSVVCVCNA TYCDSFDPP TFPALGTFSR YESTRSGRRM ELSMGPIQAN 100
101
HTGTGLLLLTL QPEQKFQKV KGFGGAMTDA AALNILALSP PAQNLLLSY 150
151
FSEEGIGYNI IRVPMASCD FSIRTYTYAD TPDDFQLHNF SLPEEDTKLK 200
201
IPLIHRALQL AQRPVSLLA SPWTSPTWLK TNGAVNGKGS LKGQPGDIYH 250
251
QTWARYFVKF LDAYAEHKL QFWAVTAENE PSAGLLSGYP FQCLGFTPEH 300
301
QRDFIARDLG PTLANSTHH NVRLMLDDQ RLLLPHWAKV VLTDPEAAKY 350
351
VHGIAVHWYL DFLAPAKAT LGETHRLFPN TMLFASEACV GSKFWEQSVR 400
401
LGSWDRGMQY SHSIITNLL YHVVGWTDWN LALNPEGGP WVRNFVDSPI 450
451
IVDVTKDIFY KQPMFYHLG HFSKFIPEG S QRVGLVASQK NDLDVAALMH 500
501
PDGSAVVVVL NRSSKDVPL TIKDPAVGFL ETISPGYSIH TYLWRRQnsd 550
ykdddk"

```

FIG. 10

CAATACGATA TTACCGAATA TTATACTAAA TCAAAATTTA ATTTATCATA TCGAATTATT 60
 AACTGATAT TTCAAATTTT AATATTTAAT ATCTACTTTC AACTATTATT ACCTAATTAT 120
 CAAATGCAAA ATGTATGAGT TATTTTCATAA TAGCCCGAGT TCGTATCCAA ATATTTTACA 180
 CTTGACCAGT CAACTTGACT ATATAAACT TTACTTCAA AAATTAAAAA AAAAAGAAAG 240
 TATATTATTG TAAAAGATAA TACTCCATTC AAAATATAAA ATGAAAAAAG TCCAGCGCGG 300
 CAACCGGGTT CCTCTATAAA TACATTTTCCT ACATCTTCTC TTCTCCTCAC ATCCCATCAC 360
 TCTTCTTTTA ACAATTATAC TTGTCAATCA TCAATCCCAC AAACAACACT TTTTCTCTCC 420
 TCTTTTTCCT CACCGGCGGC AGACTTACCG GTGAAATCTA GAGTAAGCAT C 471

FIG. 11

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CAATACGATA TTACCGAATA TTATACTAAA TCAAAATTTA ATTTATCATA TCAATTATTA 60
AACTGATATT TCAAATTTTA ATATTTAATA TCTACTTTCA ACTATTATTA CCTAATTATC 120
AAATGCAAAA TGTATGAGTT ATTCATAAT AGCCCAGTTC GTATCCAAAT ATTTTACACT 180
TGACCAGTCA ACTTGACTAT ATAAAACTTT ACTTCAAAAA ATTAAAAAAA AAAGAAAGTA 240
TATTATTGTA AAAGATAATA CTCCATTCAA AATATAAAAT GAAAAAAGTC CAGCGCGGCA 300
ACCGGGTTCC TATAAATACA TTCCTACAT CTTCTCTTCT CCTCACATCC CATCACTCTT 360
CTTTTAACAA TTATACTTGT CAATCATCAA TCCCACAAAC AACACTTTTT CTCTCCTCTT 420
TTTCCTCACC GCGGCAGAC TTACCGGTGA AAGTAAGCAG STC 463

FIG. 11

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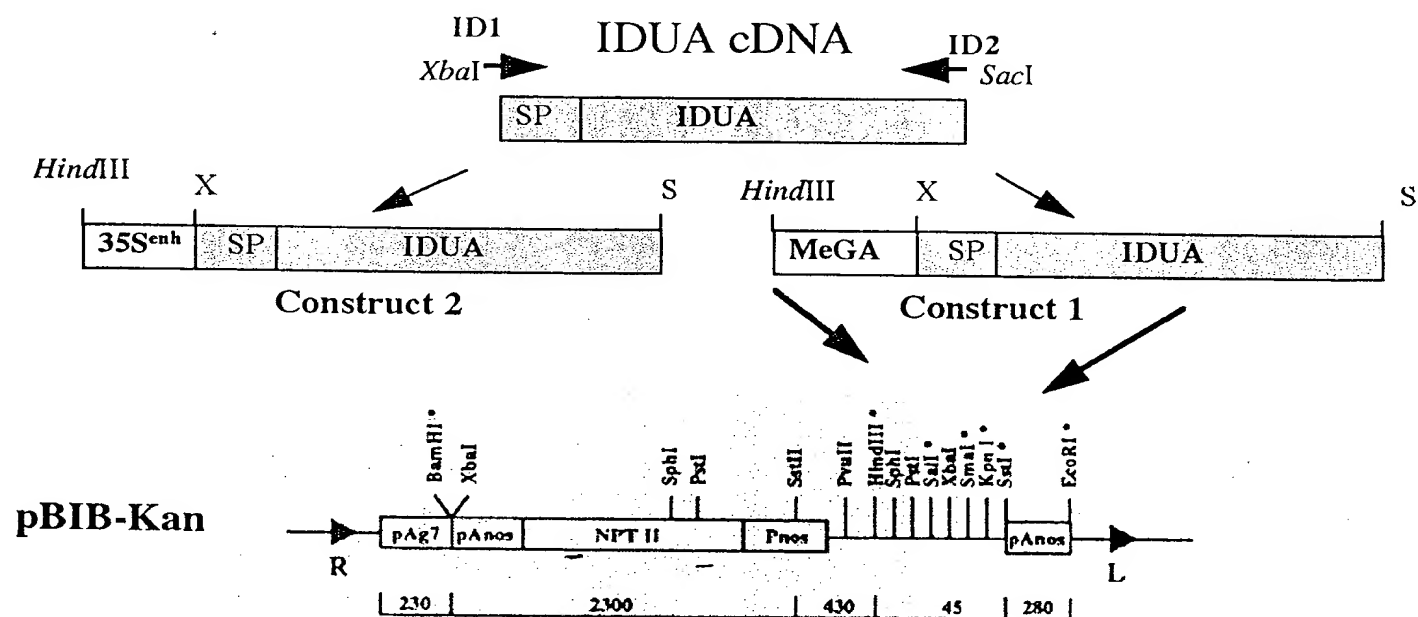


FIG. 12

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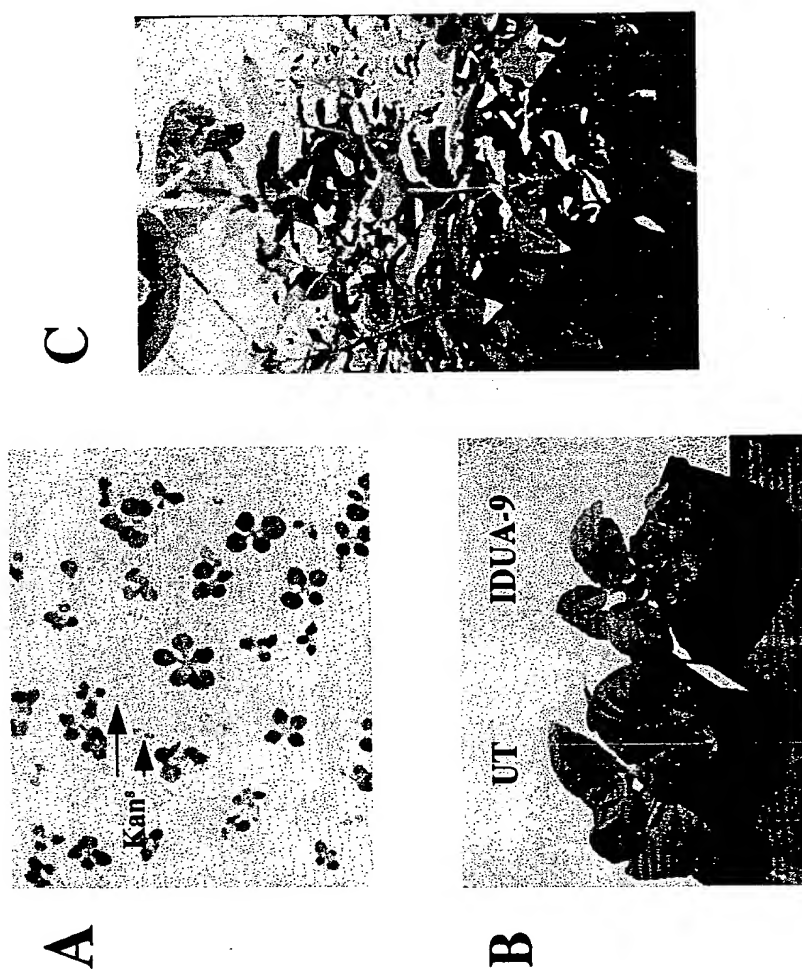


FIG. 13

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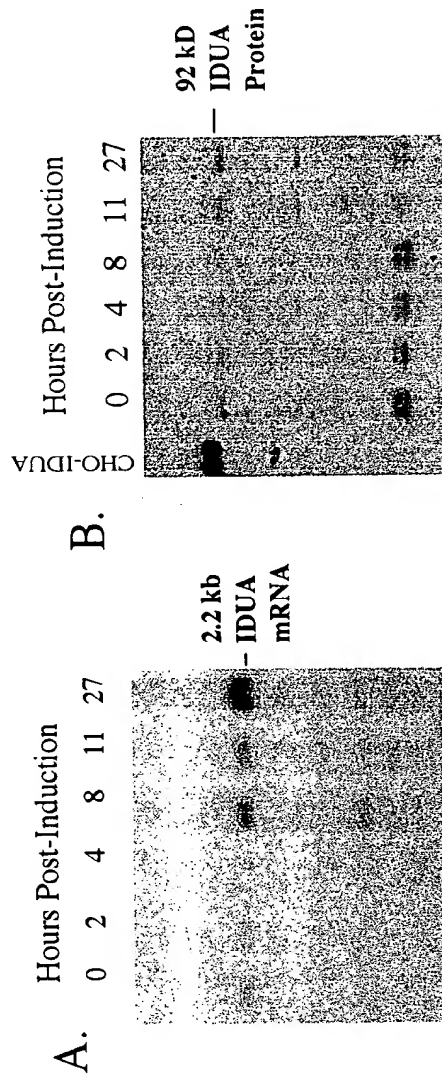


FIG. 14

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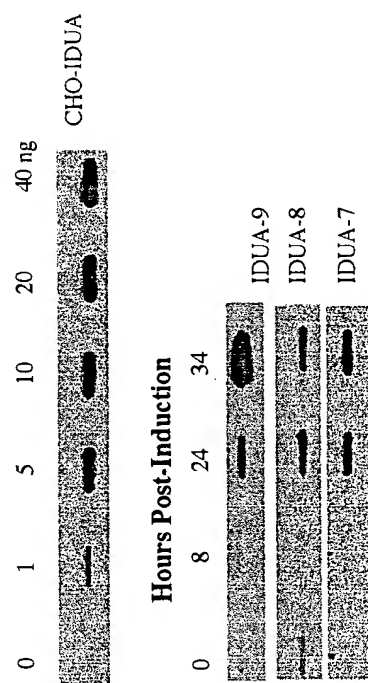


FIG. 15

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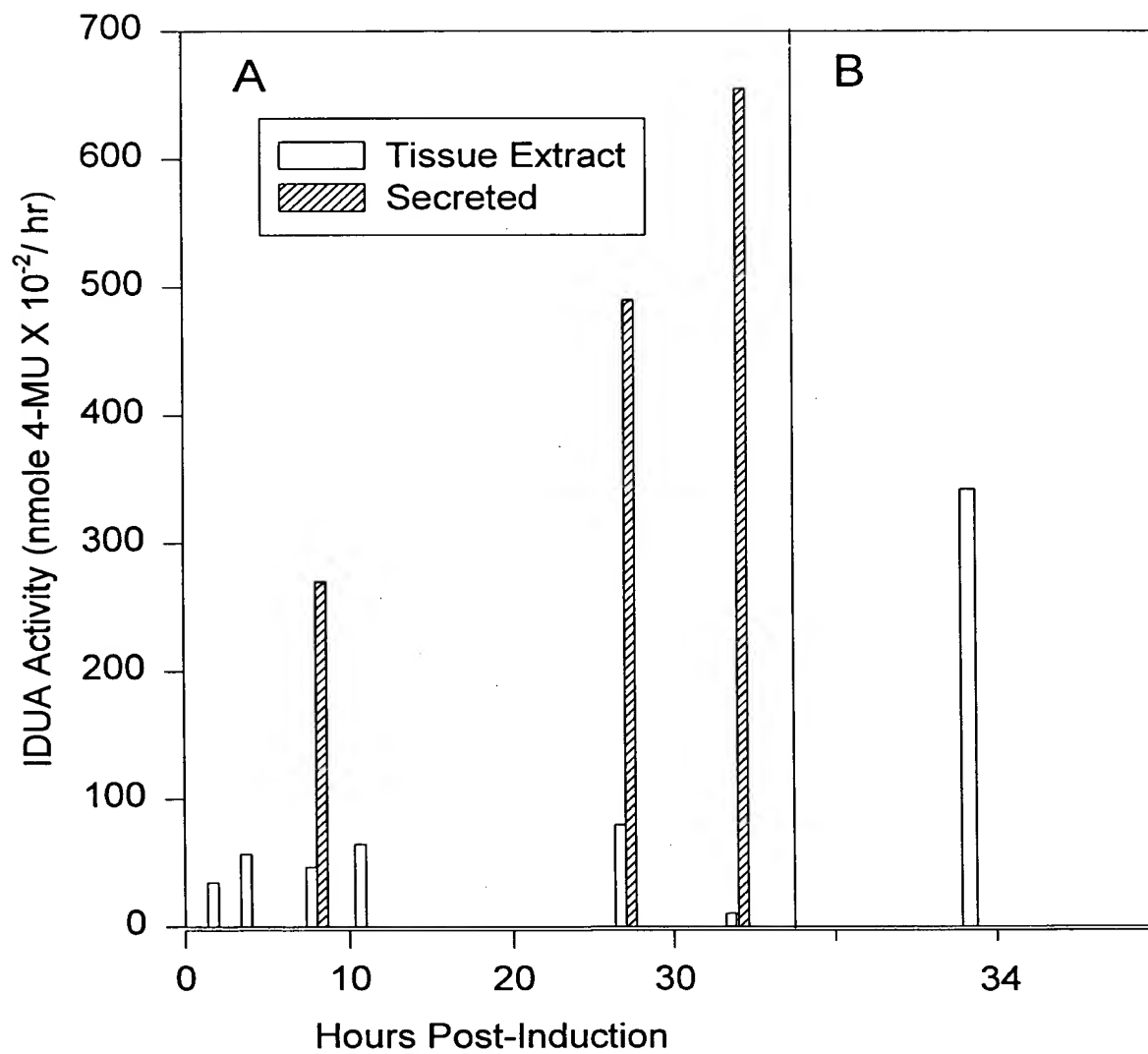


FIG. 16

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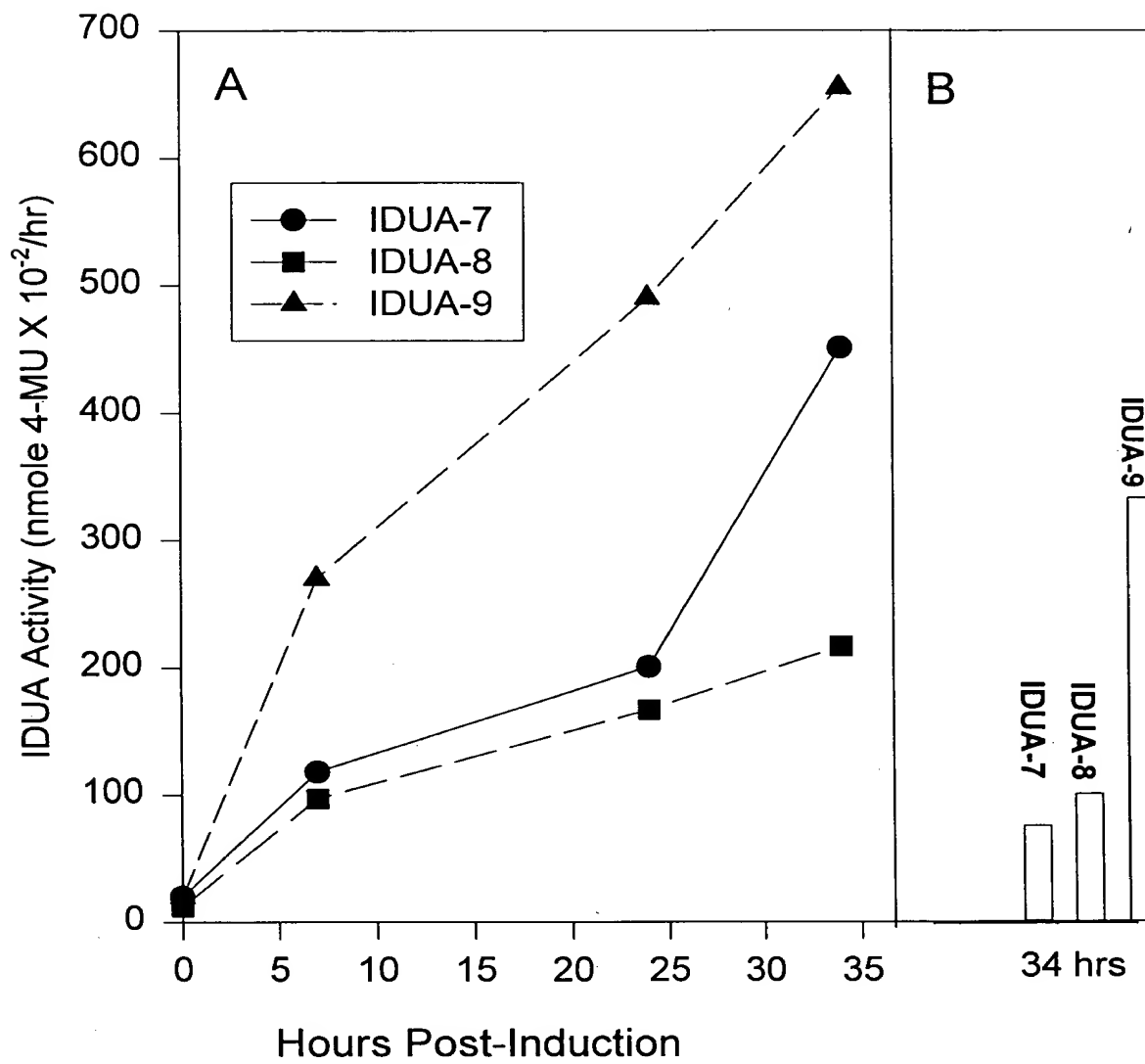


FIG. 17

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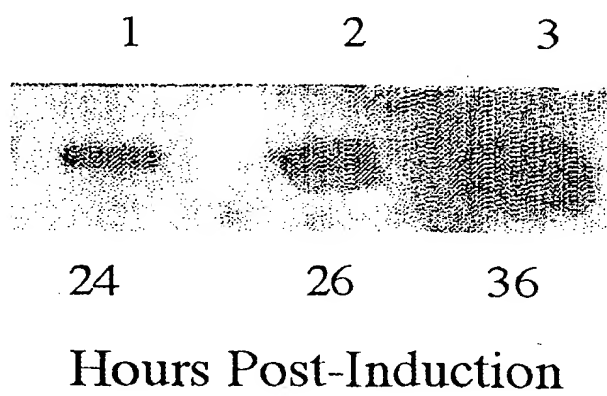


FIG. 18

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Nucleotide Sequence of α -L-iduronidase

90 110
ATGCGTCCCCTGCGCCCCCGCGCCGCTGCT

130 150 170
GGCGCTCCTGGCCTCGCTCCTGGCCGCGCCCCCGGTGGCCCCGGCCGAGGCCCGCACCT

190 210 230
GGTGCAGgTGGACGCGGCCCGCGCGCTGTGGCCCCTGCGGCGCTTCTGGAGGAGCACAGG

250 270 290
CTTCTGCCCCCGCTGCCACACAGCCAGGCTGACCAGTACGTCCTCAGCTGGGACCAGCA

310 330 350
GCTCAACCTCGCCTATGTGGGCGCCGTCCCTCACCGCGGCATCAAGCAGGTCCGGACCCA

370 390 410
CTGGCTGCTGGAGCTTGTCAACCACCAGGGGTCCACTGGACGGGGCCTGAGCTACAACTT

430 450 470
CACCCACCTGGACGGGTACTTGGACCTTCTCAGGGAGAACCAGCTCCTCCCAGGGTTTGA

490 510 530
GCTGATGGGCAGCGCCTCGGGCCACTTCACTGACTTTGAGGACAAGCAGCAGGTGTTTGA

550 570 590
GTGGAAGGACTTGGTCTCCAGCCTGGCCAGGAGATACATCGGTAGGTACGGACTGGCGCA

610 630 650
TGTTTCCAAGTGGAACCTCGAGACGTGGAATGAGCCAGACCACCAGACTTTGACAACGT

670 690 710
CTCCATGACCATGCAAGGCTTCCTGAACTACTACGATGCCTGCTCGGAGGGTCTGCGCGC

730 750 770
CGCCAGCCCCCGCCCTGCGGCTGGGAGGCCCCGGCGACTCCTTCCACACCCACCGCGATC

790 810 830
CCCGCTGAGCTGGGGCCTCCTGCGCCACTGCCACGACGGTACCAACTTCTTCACTGGGGA

FIG. 19 (Page 1 of 3)

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850 870 890
GGCGGGCGTGCGGCTGGACTACATCTCCCTCCACAGGAAGGGTGCGCGCAGCTCCATCTC

910 930 950
CATCCTGGAGCAGGAGAAGGTCGTGCGCAGAGATCCGGCAGCTCTTCCCCAAGTTTCG

970 990 1010
GGACACCCCCATTTACAACGACGAGGCGGACCCGCTGGTGGGCTGGTCCCTGCCACAGCC

1030 1050 1070
GTGGAGGGCGGACGTGACCTACGCGGCCATGGTGGTGAAGGTCATCGCGCAGCATCAGAA

1090 1110 1130
CCTGCTACTGGCCAACACCACCTCCGCCTTCCCCTACGCGCTCCTGAGCAACGACAATGC

1150 1170 1190
CTTCCTGAGCTACCACCCGCACCCCTTCGCGCAGCGCACGCTCACCGCGCGCTTCCAGGT

1210 1230 1250
CAACAACACCCGCCCGCCGCACGTGCAGCTGTTGCGCAAGCCGGTGCTCACGGCCATGGG

1270 1290 1310
GCTGCTGGCGCTGCTGGATGAGGAGCAGCTCTGGGCCGAAGTGTCGCAGGCCGGGACCGT

1330 1350 1370
CCTGGACAGCAACCACACGGTGGGCGTCCCTGGCCAGCGCCACCGCCCCCAGGGCCCGGC

1390 1410 1430
CGACGCCTGGCGCGCCGCGGTGCTGATCTACGCGAGCGACGACACCCGCGCCCAACCCAA

1450 1470 1490
CCGCAGCGTCGCGGTGACCCTGCGGCTGCGCGGGGTGCCCCCGGCCCGGGCCTGGTCTA

1510 1530 1550
CGTCACGCGCTACCTGGACAACGGGCTCTGCAGCCCCGACGGCGAGTGGCGGCGCCTGGG

1570 1590 1610
CCGGCCCGTCTTCCCCACGGCAGAGCAGTTCCGGCGCATGCGCGCGGTGAGGACCCGGT

1630 1650 1670
GGCCGCGGCGCCCCGCCCCCTTACCCGCGGCGGCGCCTGACCCTGCGCCCCGCGCTGCG

FIG. 19 (Page 2 of 3)

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1690 1710 1730
GCTGCCGTCGCTTTTGCTGGTGCACGTGTGTGCGCGCCCCGAGAAGCCGCCCGGGCAGGT

1750 1770 1790
CACGCGGCTCCGCGCCCTGCCCCTGACCCAAGGGCAGCTGGTTCTGGTCTGGTCGGATGA

1810 1830 1850
ACACGTGGGCTCCAAGTGCCTGTGGACATACGAGATCCAGTTCTCTCAGGACGGTAAGGC

1870 1890 1910
GTACACCCCGTTCAGCAGGAAGCCATCGACCTTCAACCTCTTTGTGTTCAGCCCAGACAC

1930 1950 1970
AGGTGCTGTCTCTGGCTCCTACCGAGTTCGAGCCCTGGACTACTGGGCCCCGACCAGGCCC

1990 2010 2030
CTTCTCGGACCCTGTGCCGTACCTGGAGGTCCCTGTGCCAAGAGGGCCCCCATCCCCGGG

2050 2070 2090
CAATCCATGAGCCTGTGCTGAGCCCCAGTGGGTTGCACCTCCACCGGCAGTCAGCGAGCT

2110 2130 2150
GGGGCTGCACTGTGCCCATGCTGCCCTCCCATCACCCCTTTGCAATATATTTTT

FIG. 19 (Page 3 of 3)

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Amino Acid Sequence of α -L-iduronidase

10 30 50
MRPLRPRAALLALLASLLAAPPVAPAEAPHLVHVDAARALWPLRRFWRSTGFCPPLPHSQ

70 90 110
ADQYVLSWDQQLNLAYVGAVPHRGIKQVRTHWLLLELVTTTRGSTGRGLSYNFTHLDGTLDL

130 150 170
LRENQLLPGFELMGSASGHFTDFEDKQQVFEWKDLVSSLARRYIGRYGLAHVSKWNFETW

190 210 230
NEPDHHDFFDNVSMQGFNLNYDACSEGLRAASPALRLGGPGDSFHTPPRSPLSWGLLRH

250 270 290
CHDGTNFFTGEAGVRLDYISLHRKGARSSISILEQEKVVAQEIRQLFPKFADTPIYNDEA

310 330 350
DPLVGWSLPQPWRADVITYAAMVVKVIAQHQNLLANTTSAPFYALLSNDNAFLSYHPHPF

370 390 410
AQRTLTARFQVNNTRPPHVQLLRKPVLTAMGLLALLDEEQWLAEVSQAGTVLDSNHTVG

430 450 470
LASAHRPQGPADAWRAAVLIYASDDTRAHPNRSVAVTLRLRGVPPGPGLVYVTRYLDNGL

490 510 530
CSPDGEWRRRLGRPVFPTAEQFRMRRAEDPVAAAPRPLPAGGRLTLRPALRLPSLLLHV

550 570 590
CARPEKPPGQVTRLRALPLTQGQLVLVWSDEHVGSKCLWTYEIQFSQDGKAYTPVSRKPS

610 630 650
TFNLFVFSPTGAVSGSYRVRALDYWARPGFSDVPYPYLEVPVPRGPPSPGNP

FIG. 20

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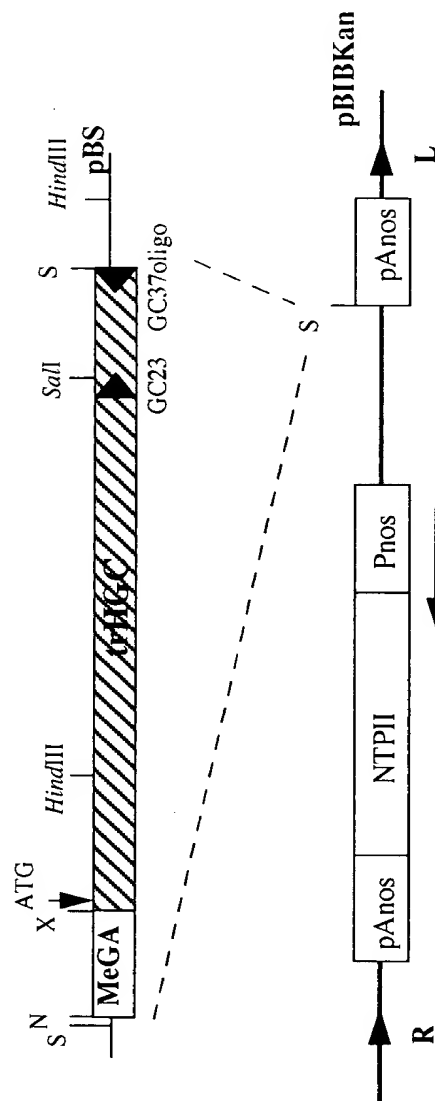


FIG. 21